

Application No. 10/581,185
Amdt. Dated March 7, 2011
Responsive to Office action of October 5, 2010

Amendments to the Drawings:

The attached sheet includes changes to Fig.1. This sheet, which includes Fig. 1, replaces the original sheet including Fig. 1. In Figure 1, a power supply, reference number 12, has been added with two leads; one lead is connected to bus bar 6 and the other lead is connected to bus bar 7. In addition, a gap 8 between the bus bars 6 and 7 has been moved to the right ever so slightly.

Attachments: Replacement Sheet

Annotated Sheet Showing Changes

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REMARKS AND ARGUMENTS

At the outset, the applicant would like to thank Examiner Vinod Patel for participating in a telephonic interview with the applicant's representative, Dave Purdue, on 16 December 2010. It is believed that the substance of the interview is fully and correctly summarized in an interview summary prepared by Examiner Patel on 16 December 2010.

In the subject Official action, there is (1) a new objection to the specification, (2) a new objection to the drawing Figures, (3) a rejection of claims 10 through 15 under 35 U.S.C. § 112, second paragraph, and (4) a rejection of claims 10 through 15 as either anticipated by or obvious from US Patent No. 6,914,224 ("Gillner et al.").

SPECIFICATION

With this response, applicant is submitting a substitute specification which reflects amendments including the insertion of suitable headings; the deletion of headers, bolding, double spacing between paragraphs and line numbering; and the incorporation by reference of a cited published patent document. The spellings of busbar and busbars have been corrected and an abstract on a separate page has been added. A marked up version of the specification showing all of the changes is submitted with this response, together with a "clean" version of the substitute specification.

REQUIRED STATEMENT FOR SUBSTITUTE SPECIFICATION

The substitute specification includes no new matter.

DRAWING

The drawings were objected to because they do not illustrate (1) a voltage source having

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poles of different polarity and (2) heating wires that have essentially the same length. As mentioned above, a replacement sheet with a revised Fig. 1 is submitted with this response. In revised Fig. 1, a power supply 12 has been added and it has two leads, one of which is connected to the positive (+) bus bar 6 and the other of which is connected to the negative (-) bus bar 7. The power supply is, of course, a source of voltage and the opposite polarity of that voltage source is reflected in the (+) and (-) legends already on the bus bars 6 and 7 to which the power supply 12 leads are connected. It was noted in the course of preparing this response that the gap 8 between the bus bar 6 and the bus bar 7 was inadvertently position so that the innermost heating wire 9q was illustrated as being connect twice to bus bar 7. This is inconsistent with the description of the heating wires 9 and the drawing has been amended to be consistent with the written description. No new matter has been added. Concerning the length of the heating wires, it is believed that the heating wires 9 shown in Fig. 1 all have essentially the same length. Based upon this belief, paragraph 26 has been amended to recite this.

REJECTIONS OF CLAIMS UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

New claims 16 through 21 have been presented and they were prepared with special attention given to the various grounds on which claims 10 through 15 were rejected under 35 U.S.C. § 112, second paragraph. Specifically:

New independent claims 16 and 20 recite (a) "...said heating wires have essentially the same lengths..." and (b) "...said bus bars are located parallel to said base edge of the heatable glass pane and said bus bars are arranged essentially in a line in their axial direction...". This makes it clear which element the modifying clauses refer to. The spellings of busbars and busbar

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have are correct in the new claims (and, as noted above, in the substitute specification). In addition, "axial directions" has been used in place of "longitudinal direction". It is now clear that "spaced apart a short distance from one another" refers to the bus bars. An antecedent basis for "the laying direction" has been provided. No reference numbers are used in new claims 16 through 21.

CLAIM REJECTIONS IN VIEW OF GILLNER ET AL.

Claims 10 through 16 were rejected as unpatentable over Gillner et al. The inventions of new claims 16 through 21 are patentable over Gillner et al. and are also patentable over three patents that were discussed in the telephonic interview and mentioned in the interview summary, namely, US Patent Nos. 5,347,106 (Reiser et al.), 2,878,357 (Thomson et al.) and 3,414,713 (Reifeiss et al.), whether considered alone or together. The Gillner et al. reference is addressed below followed by a brief discussion of the other references.

GILLNER ET AL.

Gillner et al. discloses a heated window including bus bars 3 and 4 which are parallel to a base edge of the window 1. The bus bars are also parallel to each other, spaced apart a short distance, and each bus bar extends pretty much from one side edge of the window to the other side edge of the window. As a result, there is an upper bus bar 3 and a lower bus bar 4. Consequently, one end of each of the heating wires 2 must (a) pass over the upper bus bar 3 for connection to lower bus bar 4 and (b) be insulated from the upper bus bar 3. The patent discloses means for insulating one end of each of the heating wires from the upper bus bar 3.

In contrast to Gillner et al., in the invention described and claimed in the subject

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application, the two bus bars are arranged essentially in a line. Further, as now claimed in independent claims 16 and 20, the bus bars “...are arranged essentially in a line **in their axial direction...**” and the bus bars are “...spaced apart a short distance from one another”. As discussed during the telephonic interview, the use of “axial direction” instead of “longitudinal direction” helps to clarify the claims and to distinguish the claimed invention from Gillner et al. in which the bus bars are not essentially in a line in their axial direction.

New dependent claims 17 and 21 specifically recite an outermost heating wire that makes contact with the contact bus bars at their outer ends, facing away from one another. In Gillner et al., there simply is no outermost heating wire. There are several heating wires that are laid out left to right (or right to left) but they are not laid out so that there is an outermost heating wire and a plurality of inner heating wires. Therefore, an outermost heating wire and a plurality of inner heating wires, as recited in claims 17 and 21, are not disclosed in or suggested by Gillner et al.

REISER ET AL.

This patent discloses a fog resistant mirror assembly in which the path of current applied to a power bus 28 is to and through a conductive segment 22, through a transfer bus 26, and through a conductive segment 24 to a power bus 30. The power buses 28 and 30 appear to be “arranged essentially in a line in their axial direction, spaced apart a short distance from one another.” If the conductive segments 22 and 24 may be thought of as heating wires, then it could be said that they are in electrical contact with the two contact bus bars. However, the present invention contemplates that each of the heating wires extends from one bus bar (power bus) to

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the other bus bar (power bus), so that the heating wires are in physical contact, as well as in electrical contact, with the bus bars. Independent claims 16 and 20 specifically recite “a set of heating wires which are in electrical contact **and in physical contact** with said two contact bus bars”. In Reiser et al., in contrast, the conductive segment 22 is only connected to one of the bus bars, i.e. power bus 28, and the conductive segment 24 is only connected to the other bus bar, i.e. power bus 30. Therefore, neither one of the conductive segments 22 and 24 is in physical contact with the two contact bus bars 28 and 30. The two conductive segments 22 and 24 are heating elements but the transfer bus 26 is not. Reiser et al. does not disclose or suggest a **set of heating wires** in physical contact with the contact bus bars as recited in claims 16 and 20.

Claims 17 and 21 specifically recite an outermost heating wire and a plurality of inner heating wires which is not disclosed in or suggested by Reiser et al. These claims further recite that the inner heating wires are laid out so that they have at least one compensation loop which is also not disclosed or suggested in Reiser et al. Reiser does not disclose or suggest any compensation loop in a heating wire.

REIFEISS ET AL.

This patent discloses an electrically heated glass closure with heating wires 7 connected between bus bars 9 and 11. Bus bar 9 is comprised, in turn, of strips 9a, 9b and 9c. Strip 9a is adjacent to the same edge of the glass as bus bar 11, and strip 9a can be said to be axially aligned therewith. However, bus bar 9 and bus bar 11 can not be said to be arranged essentially in a line, in their axial directions, because strips 9b and 9c are part of bus bar 9 so bus bar 9 and bus bar 11 are not arranged essentially in a line in their axial direction. Therefore, Reifeiss does not disclose

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the invention claimed in claims 16 or 20, which recite that the two bus bars are arranged essentially in a line, in their axial directions. Further, the portion 9a of the bus bar 9 in Reifeiss, to which the heating wires are connected, is parallel to and adjacent to opposite edges of the glass, which does not anticipate or suggest the limitation in claim 16 which requires that the “bus bars are located parallel to and adjacent to” the base edge of the glass. As to the limitation in claims 16 and 20 that the “bus bars are arranged essentially in a line in their axial directions”, it is not disclosed or suggested in Reifeiss et al. because the bus bar 9 is not arranged essentially in a line with bus bar 11 because the bus bar 9 is not laid out in a line. In respect of claims 17 and 20, Reifeiss et al. does not disclose or suggest an outermost heating wire connected to contact bus bars (arranged in a line in their axial direction) at their outer ends and a plurality of inner heating wires.

THOMSON ET AL.

This patent discloses a heated laminated glass panel where the glass is provided with discreet sections that include a conductive film formed on the glass surface and these sections are separated by sections of glass without the conductive film. Current is supplied to the discreet conductive sections to cause heating and various connections are disclosed for supplying the current to the sections including the conductive film. Of course, the conductive sections described in this patent do not constitute heating wires. Even if the conductive sections could be considered to be heating wires, there is no disclosure or suggestion of the presently claimed heatable glass pane.

The Thomson et al. patent discloses, in connection with Fig 1, an arrangement of six

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conductive glass sections, 15, 16, 17, 18, 19 and 20 and two bus bars 28 and 29 for delivering current to the sections. The arrangement is similar to the arrangement disclosed in Reiser et al. and described above. However, as illustrated in all of the Figures in Thomson et al., the conductive glass sections do not have substantially the same lengths. Successive ones of the conductive glass sections are shorter (or longer) than adjacent sections. If the conductive sections shown in Fig. 1 are considered to be heating wires, then none of the heating wires is in electrical and physical contact with the two busbars 28 and 29. Rather, current from bus bar 28 is delivered to and through section 15 to and through a conductor 31 to and through section 20 to bus bar 29 and so on for section 16, conductor 32 and section 19, as well as for section 17, conductor 33 and section 18. If the conductive sections shown in Fig. 2 of this reference are considered to be heating wires, then none of the heating wires is in electrical and physical contact with the two busbars 28 and 29. Rather, current from bus bar 55 is delivered to and through section 43 to and through a common bus bar 60 to and through section 44 to and through common bus bar 56 to and through section 45 to and through a common bus bar 59 to and through section 46 to and through common bus bar 57 to and through section 47 to and through a common bus bar 61 to and through section 48 to bus bar 58.

Since new claims 16 through 21 are just now being presented and since none of these claims has been rejected based on anyone of the three patents discussed above, applicant will not attempt, at this point, to further distinguish the subject matter of the newly presented claims from these references. However, it is submitted that new claims 16 through 21 define new and patentable inventions which are neither disclosed in nor suggested by the primary reference or

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any of the secondary references mentioned by the Examiner during the telephonic interview, or by any combination of these references. Because the secondary references are not formally of record, applicant is submitting an IDS with this paper. Because the IDS is filed concurrently with a request for continued examination, it is believed that no certification or fee is required in order for the IDS to be considered. If this is incorrect, it is respectfully requested that either the Examiner make the references of record or notify the applicant as to what is required so that the applicant can make the references of record.

In sum, new independent claims 16 and 20 define patentable inventions and the rejections and objections made in the subject office action have been either addressed or have been rendered moot. It is believed that the subject application, amended as requested above, is in condition for allowance. Early notice to that effect is earnestly requested.

Favorable action is respectfully solicited.

Respectfully submitted,



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